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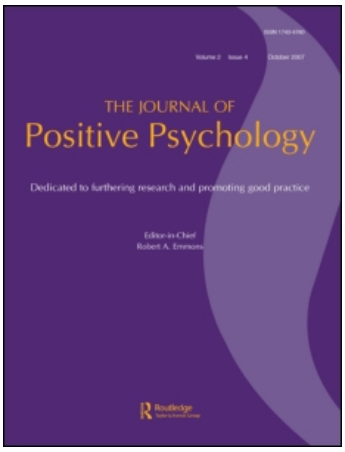

The Journal of Positive Psychology
Publication details, including instructions for authors and subscription information:
http://www.informaworld.com/smpp/title~content=t724921263

Meaning in life across the life span: Levels and correlates of meaning in life from emerging adulthood to older adulthood

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Online Publication Date: 01 January 2009

To cite this Article Steger, Michael F., Oishi, Shigehiro and Kashdan, Todd B.(2009)'Meaning in life across the life span: Levels and correlates of meaning in life from emerging adulthood to older adulthood',The Journal of Positive Psychology,4:1,43 — 52
To link to this Article: DOI: 10.1080/17439760802303127
URL: http://dx.doi.org/10.1080/17439760802303127

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The Journal of Positive Psychology
Vol. 4, No. 1, January 2009, 43–52

Routledge
Taylor & Francis Group

Meaning in life across the life span: Levels and correlates of meaning in life from emerging adulthood to older adulthood

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Meaning in life is thought to be important to well-being throughout the human life span. We assessed the structure, levels, and correlates of the presence of meaning in life, and the search for meaning, within four life stage groups: emerging adulthood, young adulthood, middle-age adulthood, and older adulthood. Results from a sample of Internet users ($N = 8756$) demonstrated the structural invariance of the meaning measure used across life stages. Those at later life stages generally reported a greater presence of meaning in their lives, whereas those at earlier life stages reported higher levels of searching for meaning. Correlations revealed that the presence of meaning has similar relations to well-being across life stages, whereas searching for meaning is more strongly associated with well-being deficits at later life stages.

Keywords: meaning in life; purpose in life; existential meaning; well-being across the life span; adult development

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Introduction

Meaning in life has enjoyed a renaissance of interest in recent years, and is considered to be an important component of broader well-being (e.g., King, Hicks, Krull, & Del Gaiso, 2006; Ryff & Singer, 1998). Perceptions of meaning in life are thought to be related to the development of a coherent sense of one's identity (Heine, Proulx, & Vohs, 2006), and the process of creating a sense of meaning theoretically begins in adolescence, continuing throughout life (Fry, 1998). Meaning creation should then be linked to individual development, and is likely to unfold in conjunction with other processes, such as the development of identity, relationships, and goals. Previous research has revealed that people experience different levels of the presence of meaning at different ages (e.g., Ryff & Essex, 1992), although these findings have been inconsistent, and inquiries have generally focused on limited age ranges (e.g., Pinquart, 2002). The present study aimed to integrate research on dimensions of meaning in life across the life span by providing an analysis of its levels and correlates in participants from age groups ranging from emerging adulthood to older adulthood.

The presence of meaning in life refers to 'the extent to which people comprehend, make sense of, or see significance in their lives, accompanied by the degree to which they perceive themselves to have a purpose, mission, or over-arching aim in life' (Steger, in press). Numerous investigations have documented the relation of the presence of meaning to greater well-being (e.g., Battista & Almond, 1973; Ryff, 1989; Steger & Frazier, 2005). Although the relative presence or absence of meaning in life has received the most attention, the degree to which people are searching for meaning in their lives has been largely unstudied. Evidence suggests that the search for meaning is not equivalent to the absence of meaning and that the presence of and the search for meaning comprise independent dimensions (Crumbaugh, 1977; Steger, Frazier, Oishi, & Kaler, 2006). The search for meaning is concerned with the degree to which people are trying to establish and/or augment their comprehension of the meaning, significance, and purpose of their lives (Steger, in press; Steger, Kashdan, Sullivan, & Lorentz, 2007). Investigations that focus exclusively on the presence or absence of meaning in life may be missing the full complexity of variation in meaning in life over the lifespan.

Nearly all meaning measures in life fail to address the search for meaning. Meaning in life measures have been widely criticized on other grounds as well, including poor content and discriminant validity (e.g., Klinger, 1977; Yalom, 1980) and weak, rarely replicated factor structures (e.g., Steger, 2006, 2007). As a prerequisite to any between-group comparisons, it is critical to first establish the factorial invariance of the measure used. Lack of structural validity limits the

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ISSN 1743–9760 print/ISSN 1743–9779 online
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DOI: 10.1080/17439760802303127
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conclusions that can be reached from between-group comparisons. We used a meaning measure that had previously demonstrated structural validity, and therefore anticipated revealing evidence for its factorial invariance across age groups in the present study.

Levels and correlates of meaning and age

Research has revealed the influence of measurement on age-related variation in levels of the presence of meaning. Investigations using the Purpose In Life test (PIL; Crumbaugh & Maholick, 1964) and Life Regard Index (LRI; Battista & Almond, 1973) have usually found higher presence of meaning later in life (e.g., Meier & Edwards, 1974; Reker, 2005; Reker, Peacock, & Wong, 1987; Van Ranst & Marcoen, 1997). However, research using the purpose in life subscale of Ryff's (1989) Psychological Well-Being measure consistently has found lower presence of meaning in later years (e.g., Ryff & Essex, 1992). Ryff's (1989) measure emphasizes having and achieving goals (i.e., 'I enjoy making plans for the future and working to make them a reality'; Ryff, 1989), possibly capturing content that is more susceptible to change over the lifespan. For instance, older adults report having fewer goals they are typically trying to attain (Lawton, Moss, Winter, & Hoffman, 2002). The only published meta-analysis concluded that those 69 and younger reported more meaning than those 70 and older, with a small effect size r of -0.12 (Pinquart, 2002). The effect size was larger in studies using single items focusing on feelings of usefulness and those using Ryff's scale than those using other scales. In the present study, we used a measure of subjective feelings of the global presence of meaning, which is more similar to the LRI and PIL. Therefore, we expected increasingly higher levels of the presence of meaning at life stages through adulthood. In light of the meta-analytic findings, however, we expected lower presence of meaning among our oldest age group. Finally, although levels of the presence of meaning might vary over the lifespan, theorists have argued that feeling one's life is meaningful is important to every life stage (Wong, 2000). Therefore, correlations among the presence of meaning and other indices of well-being should be consistently positive during each life stage we investigated.

Only one relevant study exists to support hypotheses regarding differences in the search for meaning across the life span. This study found no age-related differences on the 'will to meaning' subscale of the LAP-R, which is similar conceptually to the search for meaning in life (Reker et al., 1987). However, this subscale was shown to have poor psychometric properties and removed in subsequent revisions (Reker, 1992). Developmental theories have identified exploration as a hallmark feature of emerging adult developmental needs to determine and establish identity, career, and social roles (Arnett, 2000; Erikson, 1968; Marcia, 1966). The emphasis in these theories on exploration in this earlier life stage suggests that younger age groups should report higher levels of the search for meaning than older age groups. Developmental theories anticipate that younger people expend considerable resources on exploring who they are, what they like to do, and with whom they want to become intimate (e.g., Erikson, 1968). It therefore seems likely that although searching for meaning might be associated with significantly less well-being in later life, searching for meaning might be normative or even adaptive in earlier life stages, such as emerging adulthood, and would therefore be unrelated to well-being, rather than inversely related.

Finally, we also assessed the ways people report trying to achieve well-being. Three orientations to happiness have been proposed, namely, a pleasure orientation (finding happiness in physical or sensory pleasure), an engagement orientation (finding happiness through absorption and engagement in important life activities), and a meaning orientation (finding happiness through a sense of purpose and understanding of how one fits in with the grand scheme of things) (Seligman, 2002). We did not make any hypotheses about age-related differences in relations between meaning in life and orientations to happiness, and regard these analyses as exploratory.

The present study

The purpose of the present study was to assess the levels and correlates of both the presence of, and search for, meaning in life in several age groups spanning much of the human life span. Data were collected from a sample of website visitors. Due to restrictions on this website, participants were sorted into age groups corresponding with major life stages proposed by Erikson (1968): Young Adults (25–44 years), Middle-Age Adults (35–64 years), and Older Adults (over 65 years). In addition, we formed an age group corresponding to Arnett's (2000) Emerging Adults (18–24 years). This approach yielded four ordered life stage categories.

Hypotheses

As a prerequisite to between-group comparisons, we expected (1) to find evidence of structural validity and factorial invariance of our meaning measure across age groups. Based on our review of the literature on meaning in life, we expected (2) levels of the presence of meaning to be highest in young adulthood and middle-age adulthood, and lower in older adulthood. We expected (3) higher levels of the search for meaning

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in earlier life stages. We did not hypothesize any significant differences across life stages in the strength of relations between the presence of meaning and well-being, whereas (4) we hypothesized that those in the youngest life stages (adolescence and emerging adulthood) would exhibit the strongest positive relations between the search for meaning and well-being, whereas older adults would exhibit the strongest negative relations between the search for meaning and well-being.

Method

Participants

Responses on the measures of interest were received from 8756 individuals (66.3% female) via a website between November 2003 and February 2005. Participants only indicated their ages according to seven relevant categories (18–20, 21–24, 25–34, 35–44, 45–54, 55–64, and 65 and older), which were assorted according to developmental life stages proposed by Erikson (1968) and Arnett (2000): Emerging Adults (18–24 years; $n = 1229$), Young Adults (25–44 years; $n = 3649$), Middle-Age Adults (45–64 years; $n = 3715$), and Older Adults (over 65 years; $n = 163$). Most participants (97.7%) were from Western countries (63.6% USA; 13.0% UK; 8.5% Canada; 7.3% Australia/New Zealand; 3.4% other European countries; 1% Asian countries; 0.7% Latin American countries; 0.2% Middle Eastern countries; and less than 0.1% African countries). Aside from country of origin, no ethnicity data was collected.

Procedure

English versions of measures of meaning in life and well-being were located on an Internet site (www.authentichappiness.org) along with other psychological measures not considered here (e.g., attachment). Prior to completing any measures, visitors were required to initiate a free, anonymous account. Account holders could complete measures multiple times in any order they desired. However, we only analyzed scores from each account holder's first completion of the measures. Participants were free to select which measures they wanted to complete, leading to differing numbers of respondents on each measures (see Table 1).

Table 1. Descriptive statistics.

Scale	*n*	*M* (*SD*)	*t*-test of sex differences
MLQ-Presence	8154	23.5 (8.1)	3.55***
MLQ-Search	8154	24.8 (8.2)	3.99***
Life satisfaction	5768	21.3 (7.7)	3.21**
Happiness	5768	18.0 (6.0)	6.88***
Positive affect	5779	24.9 (8.6)	n.s.
Negative affect	5779	15.5 (6.8)	n.s.
Depression	4531	15.1 (13.1)	2.31*
Pleasure orientation	4770	18.6 (5.4)	7.10***
Engagement orientation	4770	19.2 (4.2)	n.s.
Meaning orientation	4770	21.6 (6.0)	5.33***

*$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.
Note: Positive *t*-values indicate higher female means. MLQ-Presence = Meaning in Life Questionnaire Presence of meaning subscale, MLQ-Search = Meaning in Life Questionnaire Search for meaning subscale.

Measures

Meaning in life

The Meaning in Life Questionnaire (MLQ; Steger et al., 2006) assesses the extent to which respondents feel their lives are meaningful (MLQ-presence subscale; 5 items, e.g., 'I have a good sense of what makes my life meaningful') and also the extent to which they are actively seeking meaning in their lives (MLQ-search subscale; 5 items, e.g., 'I am seeking a purpose or mission for my life'). Each dimension of meaning is measured by five items rated from 1 (Absolutely Untrue) to 7 (Absolutely True). The two factor structure of the MLQ was replicated via confirmatory factor analyses in multiple samples, and there is evidence that the structure is robust across cultures (Steger, Frazier, & Zacchanini, in press; Steger, Kawabata, Shimai, & Otake, 2008). Both subscales have demonstrated very good internal consistency in previous studies (α's between 0.82 and 0.88; Steger et al., 2006) and adequate test–retest stability over periods from a month to a year (Steger & Kashdan, 2007; Steger et al., 2006).

Life satisfaction

We used the 5-item Satisfaction With Life Scale (SWLS; Diener, Emmons, Larsen, & Griffin, 1985) to assess life satisfaction. Respondents rate each item from 1 (Strongly agree) to 7 (Strongly disagree). The SWLS is among the most widely used well-being measures, and numerous studies have confirmed its reliability ($\alpha = 0.85$; Diener et al., 1985) and validity (for review, see Pavot & Diener, 1993).

Happiness

The General Happiness Scale (GHS; Lyubomirsky & Lepper, 1999) was used to measure subjective happiness. Four items were each rated on a 7-point scale with lower scores indicating less happiness. The reliability of the GHS has been good (α's from 0.80

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to 0.94 in eight American college samples), and its validity has been supported in American and Russian samples (Lyubomirsky & Lepper, 1999).

Positive affect and negative affect

We used the Positive And Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988) to measure positive affect (PA; 10 items, e.g., 'proud,' 'alert') and negative affect (NA; 10 items, e.g., 'jittery,' 'ashamed'). Respondents rated whether they were experiencing 20 adjectives at the present moment, from 1 (Very slightly or not at all) to 5 (Extremely). The PANAS has been widely used, and research has demonstrated very good internal consistency, test–retest stability, and structural validity (e.g., $\alpha = 0.88$ for PA, $\alpha = 0.87$ for NA; Watson et al., 1988).

Depression

We used the Center for Epidemiological Studies–Depression scale (CES-D; Radloff, 1977). The CES-D consists of 20 items touching on depressive symptoms, which respondents rate in terms of the frequency with which they have experienced them in the past week from 1 (rarely or none of the time) to 4 (most or all of the time). The CES-D has been widely used, and internal consistency has been very good ($\alpha = 0.85$ for general population, $\alpha = 0.90$ for clinical populations; Radloff, 1977).

Orientations to happiness

The Orientations to Happiness Scale (OHS; Peterson, Park, & Seligman, 2005), assesses three approaches to gaining happiness. Eighteen items rated on a 1 (Not at all like me) to 5 (Very much like me) scale assess how strongly respondents endorse finding happiness through pleasure (Pleasure orientation; 6 items, e.g., 'I love to do things that excite my senses'); engagement (Engagement orientation; 6 items, e.g., 'I seek out situations that challenge my skills and abilities'); and meaning (Meaning orientation; 6 items, e.g., 'My life serves a higher purpose'). Peterson et al. (2005) reported good structural validity and internal consistency ($\alpha = 0.82$ for Pleasure orientation; $\alpha = 0.72$ for Engagement orientation; $\alpha = 0.82$ for Meaning orientation), as well as convergent validity via correlations of each approach with life satisfaction.

Results

Descriptive statistics

Table 1 presents descriptive scale statistics and tests of sex-related scale score differences. The percentage of female participants was consistent across the first three age groups (range = 65.7% to 67.5%). However, there were fewer female than male participants in the oldest age group (47.9% female).

Factor structure and invariance of the MLQ across life stages

Our first hypothesis was that we would find evidence of structural validity and factorial invariance for the MLQ. To establish that the MLQ provides adequate measurement of meaning in life dimensions, we examined its structure and invariance across age groups. Although multigroup confirmatory factor analysis is the primary means by which we evaluated the factorial invariance of the MLQ across life stages, we first performed principal axis factor analysis with oblique rotation (direct oblimin, *delta* set to 0) to calculate the amount of variance accounted for. The variance accounted for across all life stages is substantial (see Table 2), and exceeds the amount typically accounted for by psychological measures (cf., 52.03%; Henson & Roberts, 2006). Scores were internally consistent (MLQ-P range $\alpha = 0.91$–0.93; MLQ-S range $\alpha = 0.88$–0.92). Also included in Table 2 are the correlations between the factors corresponding to each of the subscales. Interestingly, correlations between the presence and the search factors were higher in later life stages, with the oldest three life stages having significantly stronger correlations than the youngest two ($ps < 0.01$). This implies

Table 2. Internal consistency and variance accounted for using the MLQ across the life span.

	α		% Variance accounted for			
	MLQ-P	MLQ-S	MLQ-P	MLQ-S	Total	Correlation between MLQ-P and MLQ-S
Age 18–24	0.91	0.88	40.03%	24.33%	64.36%	−0.22
Age 25–44	0.92	0.92	48.49%	21.65%	70.14%	−0.36
Age 45–64	0.93	0.92	49.14%	23.51%	72.66%	−0.34
Age 65 and older	0.92	0.92	51.59%	18.90%	70.49%	−0.44

Note: MLQ – Presence = Meaning in Life Questionnaire Presence of meaning subscale. MLQ – Search = Meaning in Life Questionnaire Search for meaning subscale.

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the possibility that, as people advance through life stages, the search for meaning in life is more contingent upon whether they already have found a satisfying level of meaning among older individuals.

Measurement invariance

Establishing the measurement invariance of a psychological survey is a multi-step process that simultaneously tests the fit of data from multiple groups to a proposed structure for that survey (see e.g., Byrne, Shavelson, & Muthén, 1989; Chen, Sousa, & West, 2005; Cheung & Rensvold, 2002). Tests of fit are performed in models which constrain successively more parameters across all groups in a stepwise fashion until the invariance of the measure across all relevant parameters is confirmed or refuted (see Chen et al., 2005). We used the program AMOS 4.0 (Arbuckle, 1999) to perform multigroup confirmatory factor analyses of the covariance matrices of each life stage, specifying a simple structure model (no residuals were allowed to correlate). We used empirically established criteria (Comparative Fit Index [CFI] > 0.95, Root Mean Square Approximation of Error [RMSEA] < 0.06, and Standardized Root Mean Squared Residual [SRMR] < 0.08; Hu & Bentler, 1999) to indicate overall model fit, and recommendation derived from simulation studies (decrease in CFA of 0.01 or less; Cheung & Rensvold, 2002) to indicate invariance across successive models.

First, we modeled the two sub-factor structure of the MLQ in all age groups simultaneously. This model (Model A on Table 3) fit very well across all life stages. Second, we tested invariance across successively constrained models. All models fit well and there were no significant deteriorations in fit (i.e., CFI did not decrease by more than 0.01), thereby establishing the full *metric invariance* of the MLQ across age groups in this sample. Thus, we can be confident that any mean differences observed using this scale are due to differences in levels of the presence of and search for meaning in life of participants at different life stages.

Mean differences across life stages

Because the factor structure of the MLQ was confirmed across life stages, we can interpret the subscale scores with confidence, allowing comparisons of mean scores. Mean scores at all life stages were above the midpoint of 20 on both subscales (Table 4), indicating that participants at all ages were more likely, rather than less likely, to feel their lives are meaningful and also to be searching for meaning. Because of significant sex differences on several measures, sex was included in two-way ANOVAs assessing mean differences across age groups. The omnibus test for sex was not significant for either the MLQ-P ($F(1, 8352) = 0.71$, $p > 0.40$) or the MLQ-S ($F(1, 8352) = 0.25$, $p > 0.40$). Significant differences were found across age groups for both the MLQ-P ($F(1, 8352) = 42.07$, $p < 0.001$) and the MLQ-S ($F(1, 8352) = 41.32$, $p < 0.001$). We performed Tukey's-b post-hoc analyses of significant age-group differences and conducted pairwise *t*-test comparisons to provide effect size estimates (see Table 4). In partial confirmation of our hypotheses, MLQ-P scores generally were high in later life stages (Figure 1), with an exception occurring during Young Adulthood. As expected, MLQ-S scores were lower in later life stages. There were no significant sex-by-age group interactions that approached significance for either the MLQ-P ($F(1, 8352) = 1.96$, $p > 0.05$) and the MLQ-S ($F(1, 8352) = 2.00$, $p > 0.05$).

Correlations of presence and search across life stages

Dimensions of meaning in life and well-being

The presence of meaning was, as hypothesized, related to well-being, with medium to large effects sizes (see Table 5). There were no differences in the magnitude of correlations between presence of meaning and well-being among those at different life stages. Our expectations regarding the search for meaning were largely supported. The search for meaning was more strongly associated with greater distress and less well-being in later life stages, although there were no

Table 3. Fit indices from confirmatory factor analysis of the MLQ across the life span.

Model	χ^2	*df*	$\Delta\chi^2$	RMSEA	90% CI RMSEA	SRMR	CFI	ΔCFI
A	1487.56***	152		0.03	0.03,0.03	0.05	0.98	
B	1513.48***	160	25.92***	0.03	0.03,0.03	0.05	0.98	0.00
C	1850.13***	190	336.65***	0.03	0.03,0.03	0.05	0.97	−0.01
D	1908.71***	193	57.58***	0.03	0.03,0.03	0.09	0.97	0.00

***$p < 0.001$.

Notes: Model A = simultaneous modeling of MLQ structure, only item residual loadings fixed; Model B = same model as A but with factor loadings fixed across age groups; Model C = same model as B but with regression intercepts fixed across age groups; Model D = same model as C but with covariance between Presence and Search fixed across age groups. RMSEA = Root Mean Square Error of Approximation, SRMR = Standardized Root Mean Squared Residual, CFI = Comparative Fit Index, ΔCFI = Change in Comparative Fit Index.

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Table 4. Mean levels, and comparisons of mean levels, of the MLQ subscale across age groups.

	1	2	3	4
Subscale	18–24	25–44	45–64	65+
Presence	23.94 (7.63)	22.35 (8.16)	24.67 (8.11)	26.93 (7.63)
Search	25.51 (7.12)	25.85 (7.80)	23.32 (8.88)	21.29 (9.46)
	Comparison	(*df*)	*t*	*d*
Presence	1 vs. 2	4876	6.02	**−0.20**
	1 vs. 3	4342	2.72	0.09
	1 vs. 4	1390	4.69	**0.39**
	2 vs. 3	6762	11.71	**0.27**
	2 vs. 4	3810	7.02	**0.56**
	3 vs. 4	3276	3.47	**0.28**
Search	1 vs. 2	4876	1.36	0.04
	1 vs. 3	4342	7.71	**−0.25**
	1 vs. 4	1390	6.81	**−0.57**
	2 vs. 3	6762	12.46	**−0.29**
	2 vs. 4	3810	7.22	**−0.58**
	3 vs. 4	3276	2.84	**−0.23**

Notes: Presence = Meaning in Life Questionnaire Presence of meaning subscale, Search = Meaning in Life Questionnaire Search for meaning subscale. Because of the generally very large sample sizes, effect sizes (Cohen's *d*) are provided in addition to significance tests. Effect sizes in boldface denote differences significant at a 0.05 level according to Tukey's-b post-hoc analyses. A positive effect size denotes a higher mean for the older age group, whereas a negative effect size denotes a higher mean for the younger age group.

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significant differences in correlations with positive affect (Table 5).

Meaning and orientations to happiness

The presence of meaning and having a meaning orientation to happiness were correlated, with a large effect size (see Table 5). Emerging adults reported a weaker correlation between an orientation based on engagement and the presence of meaning in life. Both engagement and meaning orientations were more strongly associated with search for meaning at earlier life stages compared to later life stages.

Discussion

Results from the present study suggest that not only do most people report that they are more likely to feel their lives are meaningful than not, but the more meaning in life people reported, the greater well-being they experienced, at all life stages. Consistent with several previous reports, we found that individuals at later life stages reported more meaning in life than those at earlier life stages. Overall, the present findings fit with other data (e.g., Reker, 2005) and theories (e.g., Wong, 2000) that suggest meaning remains an important resource for later in life. The search for meaning in life generally was associated with lower well-being, particularly among older adults.

Participants at all age groups reported mean scores above the midpoint on the search for meaning subscale, which is somewhat surprising among older adults. We suggest that several explanations exist for the manifestation of the search for meaning in older adulthood. One is that later life is simply a more dynamic developmental stage than previously thought (e.g., Tornstam, 1997), and that older adults continue to seek out richness and complexity in their experience. A second is that older adults may need to look for meaning in new roles as they transition out of those more appropriate at earlier ages (e.g., Prager, 1998). A third possibility is suggested by the finding that older adults seem to report fewer meaningful projects and strivings than younger samples (Lawton et al., 2002). Lacking important projects and strivings may lead older adults to search for significant pursuits, as well as meaning in their lives. Finally, it could be that our sample is more interested in these issues than the typical older adult, who might not access a webpage devoted to 'authentic happiness.'

Results from our study differed in some respects from previous work that indicated a decline in meaning across the lifespan. We feel that a number of unique features of our study could explain this discrepancy. First, we used a measure that assesses global, subjective feelings about the presence of meaning in respondents' lives. As noted in a recent meta-analysis, scales oriented more toward usefulness and generating goals were more negatively related to age (Pinquart, 2002).

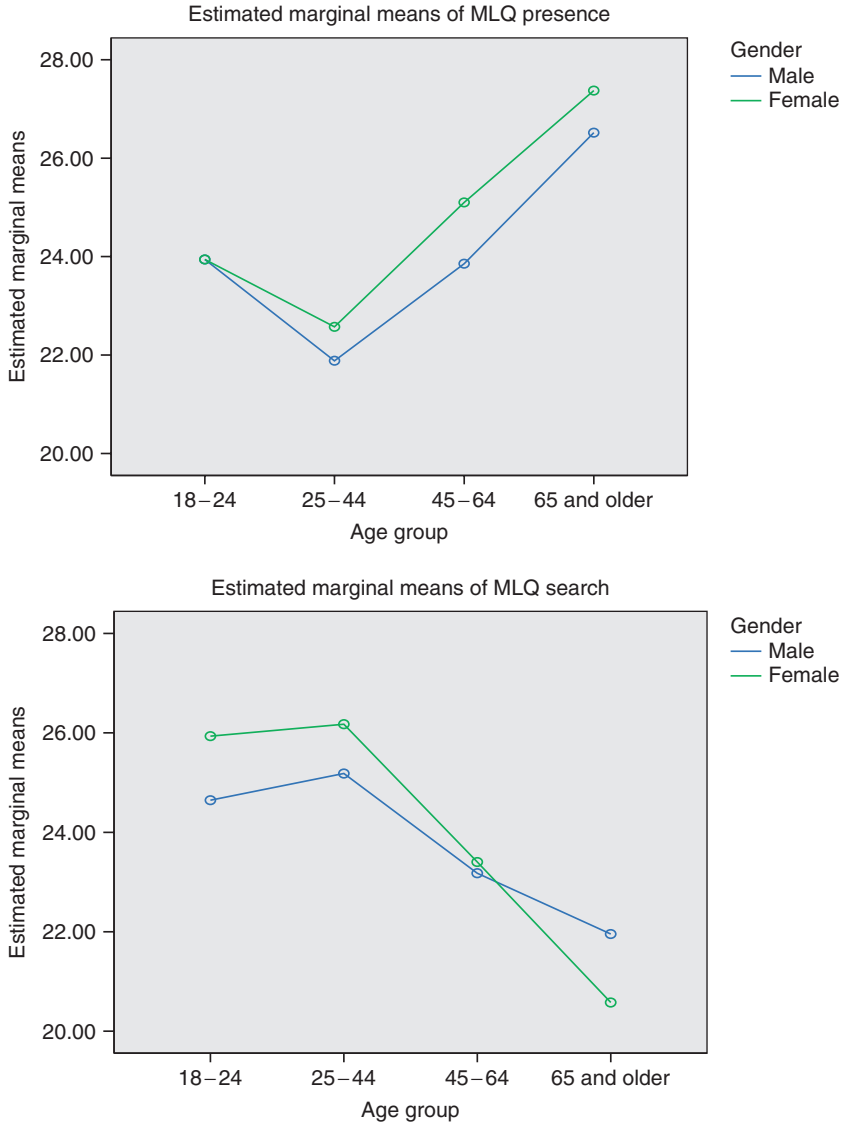

Figure 1. Mean levels of MLQ subscales across life stages, by gender.

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Second, many of the studies reporting declines made distinctions among age groups that we were not able to make. For instance, the meta-analysis used a cut-off age of 70 years. When considering meaning in life across the life span, researchers may differ in whether they want to focus on distinctions between the old-old and others, or different demarcations. The conflicting findings suggest that this decision should not be made arbitrarily. Third, we were only able to assess those who had the awareness of, access to, and desire to participate on an Internet site. Thus, this sample might not be representative of all individuals at each of the life stages of interest to the present investigation. Evidence from a large-scale study suggests that Internet samples possess generally desirable sampling characteristics, although they are probably not as representative as probability samples (e.g., Gosling, Vazire, Srivastava, & John, 2004). However, the meta-analysis on meaning in life found that those who are working and those in higher socio-economic strata reported more meaning in life (Pinquart, 2002). Those with Internet access might be employed at greater rates, and enjoy higher socio-economic status, than those without access. Thus, it is possible that Internet access reflects broader demographic features with implications for meaning in life. In contrast, Ryff's work, in particular, frequently has used national probability samples, and may more accurately reflect older populations (e.g., Ryff & Essex, 1992). In addition, we cannot rule out the possibility that some of the age differences our study revealed are due to variation in education, socio-economic status, or race/ethnicity, or other variables not assessed in the present study.

A final limitation of this study is that it is cross-sectional, and we are not able to speculate about

Table 5. Correlations between MLQ subscales and well-being variables by life stage.

	1	2	3	4	
	18–24	25–44	45–64	65+	Significant comparisons
Correlations with MLQ-Presence subscale					
Life satisfaction	0.57***	0.59***	0.56***	0.61***	
N	838	2445	2356	130	
Happiness	0.57***	0.57***	0.59***	0.63***	
N	835	2436	2319	128	
Positive affect	0.46***	0.49***	0.50***	0.49***	
N	791	2487	2373	129	
Negative affect	−0.30***	−0.33***	−0.36***	−0.32**	
N	791	2487	2373	129	
Depression	−0.53***	−0.51***	−0.54***	−0.46***	
N	626	1892	1903	111	
Pleasure orientation	0.16***	0.13***	0.15***	0.10	
N	703	1974	1984	110	
Engagement orientation	0.34***	0.42***	0.45***	0.35**	$1 \neq 2$*
N	703	1974	1984	110	$1 \neq 3$*
Meaning orientation	0.62***	0.65***	0.66***	0.70***	
N	703	1974	1984	110	
Correlations with MLQ-Search subscale					
Life satisfaction	−0.26***	−0.31***	−0.29***	−0.46***	$1, 2, 3 \neq 4$*
N	838	2445	2356	130	
Happiness	−0.24***	−0.28***	−0.28***	−0.48***	$1, 2, 3 \neq 4$*
N	835	2436	2319	128	
Positive affect	−0.11	−0.17***	−0.15***	−0.23**	
N	791	2487	2373	129	
Negative affect	0.17***	0.21***	0.19***	0.33**	$1, 3 \neq 4$+
N	791	2487	2373	129	
Depression	0.25***	0.30***	0.29***	0.40***	$1 \neq 4$+
N	626	1892	1903	111	
Pleasure orientation	−0.04	−0.02	−0.02	−0.05	
N	703	1974	1984	110	
Engagement orientation	0.00	−0.17***	−0.13***	−0.21*	$1 \neq 2, 3, 4$*
N	703	1974	1984	110	
Meaning orientation	0.03	−0.03	−0.04	−0.19+	$2 \neq 4$*
N	703	1974	1984	110	$1 \neq 4$+

$^{+}p < 0.10$; $^{*}p < 0.05$; $^{**}p < 0.01$; $^{***}p < 0.001$.

Note: The significant comparisons refers to comparing the magnitude of correlation coefficients. MLQ-Presence = Meaning in Life Questionnaire Presence of meaning subscale, MLQ-Search = Meaning in Life Questionnaire Search for meaning subscale.

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causality, or establish that the pattern of age differences we observed reflect actual age-related changes. We were not able to address whether these age differences were due to cohort effects, for example. The oldest group in the present study were born around or before 1940, and might well have completely different ideas about what makes their lives meaningful than those who will turn 65 in 50 years, as our youngest age group will. Future research should attempt to use longitudinal designs and sampling reflective of the demographics of the population.

It is important that future research consider the interplay of meaning and physical and mental health over the lifespan using longitudinal designs. For example, related work has found that although subjective well-being is fairly stable over the life span, health constraints accounted for significant declines (Kunzmann, Little, & Smith, 2000). Does poor health detract from meaning in life, or does meaning in life buffer the effects of health problems on broader well-being? If, as some have argued, meaning in life is a protective factor against lower well-being and depression (e.g., Wong, 2000), it might fend off some of the deleterious effects of health problems. If this is so, efforts should be made to understand how to facilitate the achievement of meaning among individuals at all life stages.

Future research also should explore what comprises the search for meaning across the lifespan, but particularly in later life considering the medium to large effects of its relations with well-being and depression. It would also be prudent to continue investigating age-related differences in the sources from which people draw meaning in their lives (e.g., Prager, 1998). At earlier life stages, we would suggest that research should focus on the processes and

personality features that support the presence of meaning in life and the development of purpose. Some have argued that developing a sense of broad, over-arching goals is crucial during adolescence, and that such a sense of purpose may facilitate transitions to later stages of development, and help in the acquisition of other important psychological strengths such as self-efficacy and self-regulation skills (Damon, Menon, & Bronk, 2003; Kosine, Steger, & Duncan, in press). One of the major transitions commonly facing adolescents developing into emerging adults is the move to college. It would be ideal to study whether and how college students develop or utilize a sense of purpose or meaning in life in successfully adapting to their new environments.

Meaning in life appears important to overall well-being at many life stages, and is somewhat predictable from developmental theories (Arnett, 2000; Erikson, 1968). Additional evidence was presented that global feelings of the presence of meaning in life are higher in later life, suggesting that in the face of changing roles, declining physical capacity, and accumulating interpersonal losses, people are able to make sense of their experiences and their purpose in life. Efforts should be made to incorporate meaning in life and related constructs into future work on identity development and successful aging.

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Acknowledgements

The authors are grateful to Martin Seligman for allowing the collection and use of these data, to Patty Newbold and Peter Schulman for website and database management and coordination, and to Erica Adams for her help preparing this manuscript.

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